

5th International Conference on Developmental Neurotoxicity Testing (DNT5)



Conference Agenda

Sunday, Apr 7, 2024 – Konzil (Hafenstraße 2, Konstanz-Altstadt)

16:00 – 17:00	Arrival and Registration	
17:00 – 17:25	Welcome and Introduction to the Conference	Marcel Leist (University of Konstanz)
17:25 – 18:10	Keynote Lecture I: In Vitro DNT – A Long and Winding Road from Concept to Use	Kevin Crofton (R3Fellows LLC)
18:10 – 19:45	Welcome Reception	

Monday, Apr 8, 2024 - Steigenberger Inselhotel (Auf d. Insel 1, Konstanz-Altstadt)

08:00 – 09:00	Registration	
09:00 – 09:05	Introduction to the Keynote Lecture	Chairs: Helena Hogberg (US NIEHS) Ellen Fritsche (SCAHT)
09:05 - 09:50	Keynote lecture II: Hormonal Signalling in Human Neurodevelopment: from Organoids to Epidemiology	Giuseppe Testa (Università degli Studi di Milano)
09:50 – 10:15	Coffee break	
10:15 – 12:20	Session 1 Bridging DNT4 - DNT5: historical perspective	Chairs: Helena Hogberg (US NIEHS) Ellen Fritsche (SCAHT)
10:15 – 10:40	DNT4 to DNT5: Achievements and Challenges	Marcel Leist (University of Konstanz)
10:40 – 11:05	US experience for NAM Implementation for DNT	Tim Shafer (US EPA)
11:05 – 11:30	NAM Implementation for DNT: an Asian Perspective	Yasunari Kanda (NIHS Japan)
11:30 – 11:55	Implementing NAMs for Single Chemical DNT Hazard Characterization in the EU	Iris Mangas (EFSA)
11:55 – 12:20	DNT Considerations in Industry Applications	Sue Marty (DOW)
12:20 – 13:10	Lunch Break	

Monday, Apr 8, 2024 - Steigenberger Inselhotel (continued)

13:10 – 14:50	Session 2 Regulatory Implementation of In Vitro Tests	Chairs: Thomas Hartung (JHU CAAT) Magdalini Sachana (OECD)
13:10 – 13:30	The DNT In-Vitro Testing Battery Project	Ellen Fritsche (SCAHT, DNTOX)
13:30 – 13:50	Regulatory Application of Developmental Neurotoxicity In Vitro Testing Battery (DNT-IVB): Completing the Picture	Magdalini Sachana (OECD)
13:50 – 14:10	PFAS and Their Mixtures as Risk Factors for Neurodevelopmental Disorders Based on NAM and Epidemiological Studies	Oddvar Myhre (NIPH)
14:10 – 14:30	Exploiting Different Avenues to Increase Regulatory Use of Non-Animal Data	Maurice Whelan (JRC)
14:30 – 14:50	DNT Assessment of Contaminants of Emerging Concern in Food	Suzy Fitzpatrick (US FDA)
14:50 – 16:40	Poster Session	
16:40 – 18:00	Session 3 DNT Case Studies and Projects	Chairs: Tim Shafer (US EPA) Michael Aschner (Einstein College of Medicine)
16:40 – 17:00	DNT Case Studies in the RISK-HUNT3R Project	Nadine Dreser (University of Konstanz)
17:00 – 17:20	Towards a Virtual Embryo: Computational Modelling of Neural Tube Closure Defects	Harm Heusinkveld (Utrecht University)
17:20 – 17:40	Prioritization of Compounds for DNT Using Screening Information From New Approach Methodologies	Helena Hogberg (US-NIEHS)
17:40 – 18:00	Practical Application of New Approach Methods for Developmental and Reproductive Toxicity (DART)	Iris Muller (Unilever)
18:00 – 18:15	Conclusions/Outlook	Tim Shafer Michael Aschner
19:30 – 22:00	Dinner speech and DNT social	
		Thomas Hartung (CAAT, JHU)

Tuesday, Apr 9, 2024 - Steigenberger Inselhotel

09:00 – 12:00	Session 4 Human Translation and Impact	Chairs: Lena Smirnova (JHU CAAT) Tamara Tal (UFZ)
09:00 – 09:20	Unraveling Species- Specificities of Neurotoxicity to Improve EDC Risk Assessment	Katarina Koch (IUF, DNTOX)
09:20 – 09:40	Transcriptomic Interactions With DNT Testing	Tim Shafer (US EPA)
09:40 – 10:00	Leveraging Uncertainty Knowledge to Transform Regulatory Concepts for DNT Assessment	Martin Paparella (Medical University Innsbruck)
10:00 – 10:20	Stem Cell-Based 3D Models for DN Disease Models and DNT	Lena Smirnova (JHU CAAT)
10:20 – 10:40	Coffee break	
10:40 – 12:00	Hot Topics for Novel Testing Strategies in DNT*	Breakout Groups
12:00 – 14:00	Lunch and Boat Trip to Vineum Bodensee (Vorburggasse 11, Meersburg)	

Tuesday, Apr 9, 2024 - Steigenberger Inselhotel (continued)

14:10 – 16:10	Session 5 (in Meersburg) Presentations from Selected Submitted Abstracts	Chairs: Anna-Katharina Ückert (UKN) Jasmin Schäfer (NMI)
14:10 – 14:25	Development of an in vitro test method for testing endocrine disruption-induced developmental neurotoxicity	Andrea Cediel-Ulloa (Uppsala University)
14:25 – 14:40	The NPC1_RAR_GR assay identifies putative EDCs disturbing GR or RAR signaling in vitro	Kevin Schlüppmann (IUF – Leibniz)
14:40 – 14:55	Functional alterations of neuronal signalling in human dopaminergic neurons	Eike Cöllen (University of Konstanz)
14:55 – 15:25	Coffee Break	
15:25 – 15:40	Development of a high-throughput neuroepithelial cell self-organisation assay (RosetteArray™)	Gavin Knight (University of Wisconsin-Madison)
15:40 – 15:55	Exploring the added value of the embryonic zebrafish behavior assay for inclusion into the DNT – IVB	Jui-Hua Hsieh (NIEH)
15:55 – 16:10	PPAR-delta-dependent visual startle response hyperactivity in larval zebrafish exposed to PFAS	Sebastian Gutsfeld (University of Leipzig)
16:10 – 18:10	Vineum Bodensee: networking, discussion and immersion	
18:10 – 19:30	Boat Trip to Konstanz	

***Hot topics will be prepared for publication:**

1. Maternal Toxicity | 2. Application of the DNT-IVB as a filter or add-on | 3. Prediction models for multi-dimensional endpoints | 4. Molecular Initiating Events (MIE) for DNT | 5. Scientific Validation .
- See additional document for discussion basis.

Wednesday, Apr 10, 2024 - Steigenberger Inselhotel

09:00 – 09:05	Introduction to the Keynote Lecture	Chairs: Anna Price (EC- JRC) Martin Paparella (Medical University Innsbruck)
09:05 – 09:50	Keynote lecture III: DNT as Pioneer Discipline for NGRA	Marcel Leist (University of Konstanz)
09:50 – 10:15	Coffee Break	
10:15 – 12:20	Session 6 Adverse Outcome Pathway and Mode of Action Frameworks	Chairs: Anna Price (EC- JRC) Martin Paparella (Medical University Innsbruck)
10:15 – 10:40	Thyroid Hormone-Mediated Neurodevelopmental Toxicity and Regulatory Decision-Making	Stephanie Melching-Kollmuss (BASF, ECETOC)
10:40 – 11:05	Ontology-Based AI-Driven Innovative Approach Using DNT in Vitro NAMs for Next-Generation Risk Assessment	Eliska Kuchovska (IUF)
11:05 – 11:30	AOP-informed IATA as a tool to implement NAMs for DNT risk assessment	Anna Price (EC- JRC)
11:30 – 11:55	Testing Strategies for Developmental Neurotoxicity Based on the Complex Mechanistic Knowledge of the Developing Brain	Ellen Hessel (RIVM)
11:55 – 12:20	Identification of Priority NT/DNT AOPs and Linkages of Key Events Within Vitro DNT Screening Assays	Emily Pitzer (US EPA)
12:20 – 13:15	Lunch Break	

Wednesday, Apr 10, 2024 - Steigenberger Inselhotel (continued)

13:15 – 13:35	Reporting Session from Breakout Groups Discussion	Rapporteurs
13:35 – 14:20	Keynote Lecture IV: Computational Systems Models for Neurovascular Development	Tom Knudsen (US EPA)
14:20 - 15:40	Session 7 Novel Approaches for DNT Testing	Chairs: Marcel Leist (UKN) Thomas Hartung (JHU CAAT)
14:20- 14:40	Biological Interpretation Model for Developmental Neurotoxicity	Kelly Carstens (US EPA)
14:40 – 15:00	Multi-Behavioral Phenotyping and NT Fingerprints for the Identification of Chemical MoA in Early Life Stage Zebrafish	Tamara Tal (UFZ)
15:00 – 15:20	Application of in silico Models for DNT Bioactivity and Prenatal Toxicokinetics: Fluoxetine Case Study	Sue Marty (DOW)
15:20 – 15:40	RosetteArray™ for qHTS of Human Neurodevelopmental Risk	Randy Ashton (University of Wisconsin Madison)
15:40 – 16:00	Closing Words	Marcel Leist and Ellen Fritsche

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